

ABSTRACT OF THE DISCLOSURE

A package allowing both electrical and optical coupling between one or more integrated circuits and a printed circuit board (PCB) has optical waveguide structures in addition to electrical connections. An optically active device is flip-chip bonded directly to an integrated circuit using solder bump technology. The optically active device has a lens attached to it to facilitate optical coupling to the optical waveguide. The integrated circuit is flip-chip bonded to a BGA package. The BGA package is bonded to the PCB using solder reflow technology.